

# **Testimony for EPW Hearing on Global Warming**

## **Tuesday, Jan. 30, 2007**

### **By Sen. Lisa Murkowski, R-Alaska**

Madame Chairman (woman), Ranking Member Inhofe, thank you so much for the opportunity to appear before you. It is a pleasure to be back among you all today; who says you can't go home.

I appreciate the opportunity to offer my perspectives as Alaska – America's only Arctic state – will be uniquely affected by climate change if trends continue like they have in the recent past. Alaska also will be uniquely impacted, since Alaskans, to ward off the long winter's cold, are among the highest consumers of energy on a per capita basis, and also one of the largest producers of energy in the nation.

Alaska theoretically leads the world in coal reserves, likely holds about half of the nation's undiscovered reserves of Outer Continental Shelf oil and natural gas, likely holds the nation's largest single reserve of onshore oil yet to be tapped, and holds the nation's largest unconventional source of energy, gas hydrates – probably enough to power the country for a 1,000 years.

On climate, from an Alaska perspective, there is no question that something has been going on.

Since 1979 – the start of satellite monitoring -- Arctic sea ice has shrunk by an area twice the size of Texas. Sea ice covers less of the Arctic Ocean now than ever *before observed*. The ice sheet in March 2006 was 300,000 square kilometers smaller than it was just a year earlier.

NOAA in an updated report on Arctic conditions released last October reported that average permafrost temperatures in the state continue to rise. While a few Alaska glaciers are advancing, the majority are in retreat.

The melting of the Arctic Ocean ice pack has meant more stretches of open water earlier and later, which has allowed waves to build during fall and spring storms, causing more coastal erosion damage than previously seen. That has endangered a number of villages.

The warmer temperatures have had impacts on marine mammals, birds and sealife. You have heard about the study now underway to determine whether to list polar bears as threatened under the Endangered Species Act, not because their populations currently are down – they aren't – but because they *may* decline if enough sea ice melts that it reduces their hunting zones in summer and harms their nutritional intake.

There is firmer data that Kittlitz's murrelet, a bird that lives near glaciers, are declining, their numbers down 83% since 1976 in the Kenai Fjords and 60 percent in Glacier Bay. The black guillemot, an Arctic seabird, used to thrive on northern islands in the Beaufort Sea. Melting sea ice has cut their foraging areas, nearly wiping out a major colony on Cooper Island.

If I had more time we could discuss spruce bark beetle infestations that have killed more than 5 million acres of Sitka spruce trees. We could talk about lakes that appear to be drying up since melting permafrost is allowing their waters to drain. We could talk about affects on fisheries and marine mammals: crab stocks falling, while salmon stocks have been increasing.

But the question is whether we are simply in a natural cyclic warming trend that will reverse itself or whether man-made greenhouse gas emissions are permanently changing the climate, overwhelming nature's ability to maintain a balance in the atmosphere.

My staff has been collecting scientific reports on climate change as it relates to Alaska for several years, (as you can see from the piles in front of me); yet the jury still seems out on the issue.

Last fall's NOAA report, State of the Arctic, actually reports that ocean salinity and temperature profiles at the North Pole and in the Beaufort Sea, which showed abrupt warming in the 1990s, have been moderating back toward normal since 2000. Permafrost layer thickness at some testing stations in Alaska actually have been slightly increasing over the past few years – although that is not the case at the majority of test sites. And NOAA's report for the end of last winter (March 2006) showed a return to more normal temperatures in parts of the Arctic Ocean that could drive both sea ice and air temperatures back toward their previous norms.

Are these findings simply natural variability in the other direction or a sign that an atmospheric cycle is ending? I don't know.

What I would like to suggest, though, is that we shouldn't focus too excessively on the Stern Commission Report, or the lengthy critiques of it, or that we don't venture into the storms over whether 2005's record number of Atlantic hurricanes were furthered by global warming. Those are side shows.

And for this moment, I'm not even going to focus on all the ideas to directly limit greenhouse gases, whether by mandatory regulations, cap-and-trade mechanisms, or carbon taxes. In a multi-trillion dollar economy, analyzing what all of those options will mean is a complex and time-consuming process that needs more careful consideration than we have time for today.

What I am suggesting we do right now is turn our attention to seriously funding through both grants and tax policy, the research and development of new technologies to both produce alternative forms of energy, some renewable and some continuing to come from fossil fuels -- but in ways that cause little or no greenhouse gas emissions -- and then to produce that energy at prices that will not harm our economy or lower our standard of living. And as a corollary we should focus on promoting energy conservation and fuel efficiency; and also on more domestic production.

Even if we overnight perfect hydrogen fuel cell vehicles, we will still need to find and use more oil, natural gas or coal to produce the feed stocks for petrochemicals and building supplies and the thousands of products that come from hydrocarbons: everything from aspirin to plastics.

Without technological breakthroughs and an economy that is healthy enough to nourish scientific advancement, we can't cut our emissions of greenhouse gases by 60% to 80% without returning to the Stone Age. And we won't be able to afford to help the developing world to reduce emissions, something that will be vital given that China is likely to surpass the U.S. as the leading emitter of carbon within just two years.

What I am proposing is that while we debate the science and what to do about it, that we launch a full-scale effort to fund a host of technologies to improve

energy production that will be needed regardless of the outcome of the climate change debate.

In 2005 we passed legislation to aid wind, solar and biomass. We worked to jumpstart the next generation of nuclear power and we took fledging steps toward combined-cycle coal gasification and liquid fuel plants that can actually separate out the carbon they emit and then, if we have the will, pump it and lock it back underground.

We need to do far more of that. We need to provide the same support for geothermal, hydroelectric and all forms of budding ocean energy that we have provided for wind, solar and biomass/landfill gas development. We need to increase our funding for advanced coal technologies so that we make carbon sequestration affordable, not just possible.

We need to utilize the CO<sub>2</sub> we will be generating to get more oil out of the ground, so-called enhanced oil recovery, because the hybrid vehicles that are reducing our fuel consumption run best on gasoline – at least until hydrogen fuel cells can be perfected or battery life for plug-in hybrids can be improved significantly.

We need to get on with finding a storage solution for nuclear waste, since nuclear power does not produce greenhouse gases, and because the world is proceeding with building nuclear power plants whether we do or not. So we will be facing the issue of their waste whether we follow suit or not.

We need to continue to support the development of bio-fuels as the President proposed, and help them to maturity, but only to the extent that they ultimately will prove economically and environmentally sound.

And I truly think we need to treat funding alternative energy sources and advancing fuel conservation as a priority, not an afterthought. We in Congress two years ago authorized considerable funding for a good bill to promote alternative energy technologies, but we have actually funded very little of it. We and the Administration have barely begun to implement the loan programs that we created.

Because of the fiscal impacts of aid to new technologies on our budget process, we limited the tax breaks in 2005 to such short periods that most people couldn't actually design and build plants in time and thus couldn't benefit. And frankly the private sector would have been insane to proceed too far with too many projects

based on the tepid price signals and the shallow show of federal support that we offered.

At this point I want to put in a plug for a bill I introduced that would improve CAFE standards and performance, and authorize more funding for ocean, geothermal and small hydro energy development. I'll be happy to buttonhole you to explain the merits of S. 298, the REFRESH Act, and I'll be happy to discuss my support for the many good ideas that others have already proposed.

We must expand the pace of moving new energy technologies out of development and into practical use so that we propel our economy forward – producing new industries and new jobs for Americans -- from the new technologies we advance. In the meantime I believe we still need to both explore for and produce fossil-fuel energy to help cover our needs and improve our national and economic security until this new technology can change the current energy playing field. The idea that we aren't "weaning ourselves" off oil, simply because we continue to produce it is irrational, as long as we seriously fund, encourage and send clear signals to the markets that we want to move toward using environmentally cleaner forms of energy, as soon as they can be safely advanced.

Thank you for your time and attention.